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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 662005	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP00/04490	International filing date (day/month/year) 06/07/2000	Priority date (day/month/year) 08/07/1999
International Patent Classification (IPC) or national classification and IPC H05K3/30		
Applicant SUNSTAR GIKEN KABUSHIKI KAISHA		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 29/01/2001	Date of completion of this report 17.09.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Bekkering, R Telephone No. +49 89 2399 2538 

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I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-26 as originally filed

Claims, No.:

1-11 as originally filed

Drawings, sheets:

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

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☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-4
	No:	Claims	5-11

Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-11

Industrial applicability (IA)	Yes:	Claims	1-11
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

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SECTION V:

Reference is made to the following documents:

- D1: WO 98 31738 A (WIGHAM JON ;IIDA KAZUTOSHI (JP); LOCTITE CORP (US)) 23 July 1998 (1998-07-23) cited in the application
- D2: EP-A-0 757 067 (SUNSTAR ENGINEERING INC) 5 February 1997 (1997-02-05)
- D3: US-A-5 061 776 (LONG LYNN E ET AL) 29 October 1991 (1991-10-29)

From document D1 a mounted board is known from which the subject-matter of claim 1 only differs in that a different underfilling material is used which consists essentially of a one-pack type thermosetting urethane composition.

However, urethane compositions have already been employed for the same purpose. Reference is made to documents D2 and D3. It would therefore be obvious to the person skilled in the art, to apply these compositions with corresponding effects to the mounted board according to document D1 and thus arrive at the subject-matter of claim 1.

The subject-matter of independent claims 3 and 4 also lacks an inventive step in substance for the same reasons given above.

The subject-matter of independent claim 5 is fully anticipated by document D2 disclosing a one-pack type thermosetting urethane composition. The composition is suitable for use as underfilling material.

The additional features of dependent claims 2 and 6-10 are already known from document D2.

The subject-matter of independent claim 11 is fully anticipated by document D1 (cf., page 13, line 4 ff.) disclosing a method comprising heating to between 190 and 260 C

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(i.e. between 180 and 350 C), melting the underfilling material and the solder, removing the package and mounting a package. The method is also suitable for repairing a mounted board with a urethane underfilling material discussed above, as would readily occur to the skilled person.

SECTION VII:

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D2 and D3 is not mentioned in the description, nor are these documents identified therein.

The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT.

The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

SECTION VIII:

The different definitions of the invention given in independent claims 3 and 4 are such that the claims as a whole are not clear and concise, contrary to Article 6 PCT.